

What is Claimed:

- 1) A system for reducing evaporation in a multiwell filtration plate comprising a filtration plate having a top and bottom surface and a thickness between, a collection plate having a top and bottom surface and a thickness between, the filtration plate containing a series of wells running through the thickness of the plate and having a filter sealed to the bottom of each well so that any fluid exiting the well through the lower surface must pass through the filter, the collection plate containing a series of wells formed through a portion of the thickness of the plate from its top surface, the filtration plate being placed on top of the collection plate so that the wells of the plates are in register with each other and form a continuous path between a well of the filtration plate and the corresponding well of the collection plate and an evaporation control device that is formed between the bottom surface of the filtration and the top surface of the collection plate.
- 2) The system of claim 1 wherein the evaporation control device is a sheet material interposed between the bottom surface of the filtration plate and the top surface of the collection plate, the sheet having a top surface, a bottom surface and a thickness between, the sheet containing a series of holes equal in number and spacing with the wells of the filtration plate and collection plate so as to be in register with both.
- 3) The system of claim 1 wherein the evaporation control device is a sheet material interposed between the bottom surface of the filtration plate and the top surface of the collection plate, the sheet having a top surface, a bottom surface and a thickness between, the sheet containing a series of holes equal in number and spacing with the wells of the filtration plate and collection plate so as to be in register with both and the sheet being formed of a material selected from the group consisting of plastic, rubber and elastomers.

- 4) The system of claim 1 wherein the evaporation control device is a sheet material interposed between the bottom surface of the filtration plate and the top surface of the collection plate, the sheet having a top surface, a bottom surface and a thickness between, the sheet containing a series of holes equal in number and spacing with the wells of the filtration plate and collection plate so as to be in register with both plates and the holes being slightly larger in diameter than the wells of the plates.
- 5) The system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the plate assembly to a point below the thickness of the filtration plate and at least a portion of the thickness of the collection plate.
- 6) The system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly the entire combined thickness of the two plates.
- 7) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly three quarters (75%) of the entire combined thickness of the two plates.
- 8) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly two thirds (66.67%) of the entire combined thickness of the two plates.
- 9) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly the entire combined thickness of the two plates and the top surface of the cover mates with the top surface of the filter plate.

- 10) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the plate assembly to a point below the thickness of the filtration plate and at least a portion of the thickness of the collection plate and the cover is formed of a vacuum-formed plastic.
- 11) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the plate assembly to a point below the thickness of the filtration plate and at least a portion of the thickness of the collection plate and the cover is formed of a molded plastic.
- 12) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the plate assembly to a point below the thickness of the filtration plate and at least a portion of the thickness of the collection plate and the skirt extends the entire combined thickness of the two plates and contains a series of two or more score lines spaced apart from each other by a set vertical distance so as to allow the skirt to be trimmed to a shorter length.
- 13) The cover system of claim 1 wherein the evaporation control device is a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the plate assembly and skirt extends the entire combined thickness of the two plates and the skirt contains a series of two or more score lines evenly spaced apart from each other by a set vertical distance so as to allow the skirt to be trimmed to a shorter length.
- 14) An evaporation control system for a multiwell filtration plate comprising a filtration plate having a top and bottom surface and a thickness between, a collection plate having a top and bottom surface and a thickness between, the

filtration plate containing a series of wells running through the thickness of the plate and having a filter sealed to the bottom of each well so that any fluid exiting the well through the lower surface must pass through the filter, the collection plate containing a series of wells formed through a portion of the thickness of the plate from its top surface, the filtration plate being placed on top of the collection plate so that the wells of the plates are in register with each other and form a continuous path between a well of the filtration plate and the corresponding well of the collection plate, an interface being formed between the filtration plate and the collection plate where their bottom and top surfaces respectively mate and a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the to a point below the interface.

- 15) The cover system of claim 14 wherein the skirt extends the entire combined thickness of the two plates.
- 16) The cover system of claim 14 wherein the skirt extends to a point half (50%) the thickness of the collection plate.
- 17) The cover system of claim 14 wherein the skirt extends to a point two thirds (66.67%) the thickness of the collection plate.
- 18) The cover system of claim 14 wherein the skirt extends to a point three quarters (75%) the thickness of the collection plate.
- 19) An evaporation control system for a multiwell filtration plate comprising a filtration plate having a top and bottom surface and a thickness between, a collection plate having a top and bottom surface and a thickness between, the filtration plate containing a series of wells running through the thickness of the plate and having a filter sealed to the bottom of each well so that any fluid exiting the well through the lower surface must pass through the filter, the

collection plate containing a series of wells formed through a portion of the thickness of the plate from its top surface, the filtration plate being placed on top of the collection plate so that the wells of the plates are in register with each other and form a continuous path between a well of the filtration plate and the corresponding well of the collection plate, an interface being formed between the filtration plate and the collection plate where their bottom and top surfaces respectively mate, a first evaporation control device being formed of a sheet material interposed between the bottom surface of the filtration plate and the top surface of the collection plate, the sheet having a top surface, a bottom surface and a thickness between, the sheet containing a series of holes equal in number and spacing with the wells of the filtration plate and collection plate so as to be in register with both and a second evaporation control device being formed as a cover formed of a top surface and a skirt that extends downwardly from the top surface of the cover on all sides of the to a point below the interface of the two plates.